Attorney Docket No. 87082/AJA
Customer No. 01333

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Inventor(s): Hwei-Ling Yau, et al. INKJET RECORDING ELEMENT AND METHOD Serial No.: 10/795,836 Filed: March 08, 2004	Group Art Unit: 1794 Examiner: Betelhem Shewareged

Commissioner for Patents
Alexandria, VA 22313-1450

Sir:

DECLARATION UNDER RULE 131

We, **Hwei-Ling Yau** and **Wendy S. Krzemien**, state that we are the joint inventors of the claimed subject matter of the above-captioned patent application, herein referred to as the invention.

All obviousness rejections set forth in the outstanding Office action are based on Gallo et al, US 2003/0107636 as the primary reference, which reference was published June 12, 2003.

Prior to June 12, 2003, and at the time the invention occurred, we were both employees of the Eastman Kodak Company in Rochester, New York. The invention was conceived of and actually reduced to practice in the United States of America, prior to June 12, 2003. This is demonstrated by the attached Exhibits A, B, C and D.

The attached Exhibits A, B, and C are pages from the laboratory notebook of co-inventor, Wendy S. Krzemien, which pages are dated prior to June 12, 2003, and witnessed. Exhibit A, notebook page 131, discusses the preparation of samples with fusible coatings for testing.

Exhibit B, notebook page 160, describes coating set "3165" which describes the coating of fusible coated samples that correspond to many of the examples in the present patent application. Such samples were sent immediately

for swelling test typically within a day of coating and were sent for incubation and print quality, the results of which are reported in tabular Exhibit D, dated prior to June 12, 2003.

Exhibit C, notebook page 165, describes coating set "3200" which describes the coating of fusible coated samples that correspond to many of the examples in the present patent application. Such samples were sent immediately for swelling test typically within a day of coating and were sent for incubation and print quality, the results of which are reported in tabular Exhibit D, dated prior to June 12, 2003.

Exhibit D is a tabulation of the results of testing of data sets "3165" and "3200", dated prior to June 12, 2003. For convenience, the corresponding Example numbers in the application tables at pages 17 and 19 of the application have been added to the data lines of Exhibit D in circles where appropriate, so that the Examiner can verify that the values for the data in the samples of these exhibits correspond to the Examples in the application, and thus the invention results were appreciated and in the possession of the inventors prior to June 12, 2003.

We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true. These statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: 21 APR. 09 _____
Hwei-ling Yau

Date: 16 APR 09 _____
Wendy S. Krzemien

Exhibit A

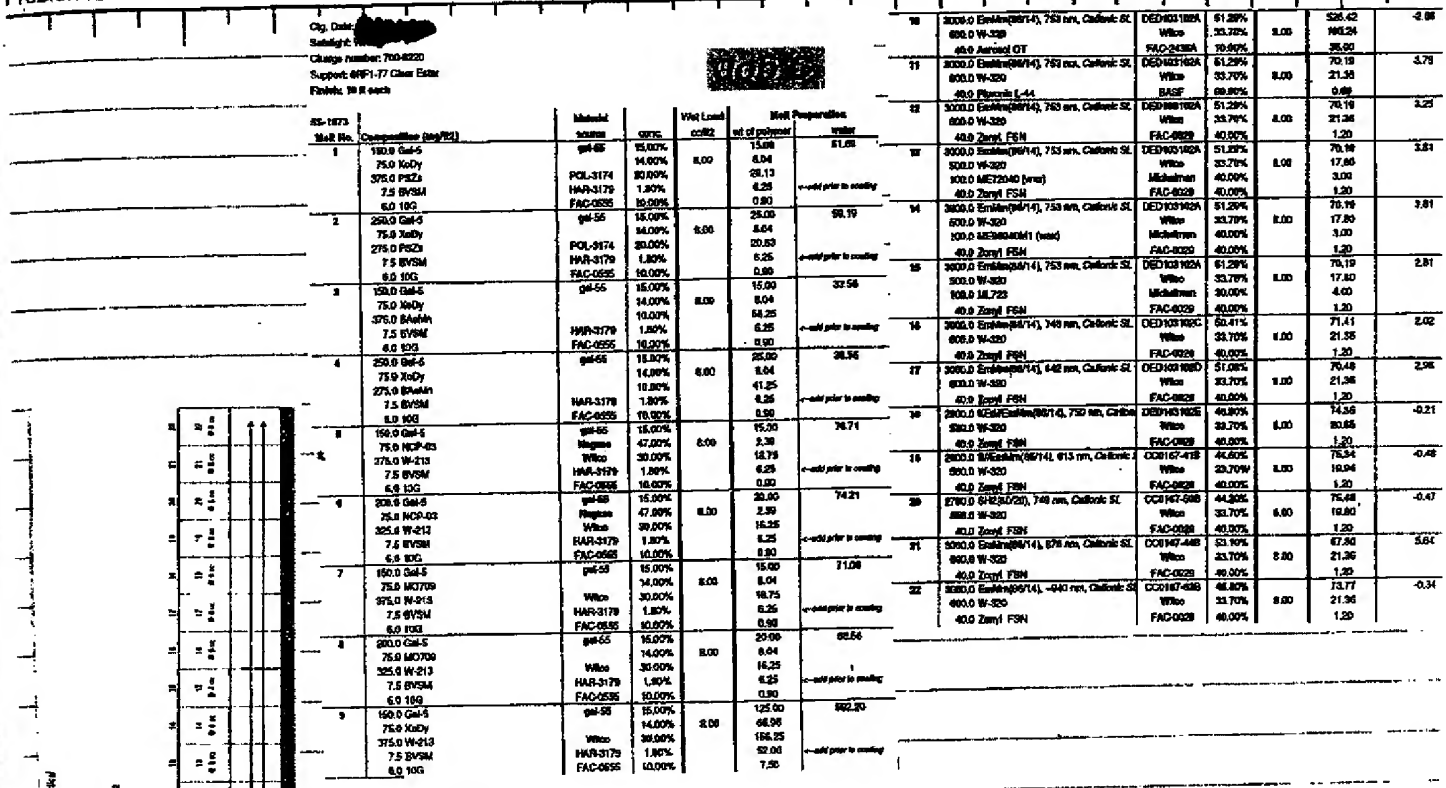
RESEARCH / DEVELOPMENT

Notebook No. CC0027

EASTMAN KODAK COMPANY

Date [redacted]

Problem: 8x10 1873



(1) Print CC0027-127 (K4) and CC0027-105 (K1) on 5S1873-10 ---> -22 from Canon S750 printer, fuse and send for dark keeping 1W/38C/90%RH.
(2) Print CC0027-127 (K4) and CC0027-105 (K1) on 5S1873-10 ---> -22 from Canon S750 printer, fuse and send for dark keeping 1W/38C/80%RH.
(3) for 5S1873-10 ---> -22, fuse at the following condition using 1-inch samples:
300F/0.5 ips/60psi
280F/0.5 ips/60psi
280F/0.5 ips/30psi
and if 280F/0.5 ips/30psi show haziness, fuse another set at 280F/0.3 psi/30 psi.

(4) Ask Butch to load CC0027-105-K1--->K4 in bk, cyan, magenta, yellow cartridges of Epson 880 print pimt skull picture on 5S1873-10, fuse and check on density in Dmax area. If density is up in 3.0 range, print on -11 to -22.
(5) repeat (4) using CC0027-127 inks.

14
15
16
17
18
20
21
22

KP 15226-6/00

Signature [redacted]

The foregoing disclosed to me on [redacted] Witness [redacted]

Exhibit B

CC0027

RESEARCH / DEVELOPMENT

EASTMAN KODAK COMPANY

Notebook No. CC0027

Date [redacted]

Problem: 205196 3165

Ctg. Date [redacted]
Safelight: [redacted]
Charge number:
Support: sRP1-77 & Calypso (Day/Night support)
Finish: handrolls

05-3165 Melt No.	Composition (mg/ft2)	Material source	conc.	Wet Load cc/ft2
1	250.0 Gel-4	Gel-0606	11.88%	
	100.0 XoDy	-	14.90%	7.00
	450.0 W-213	Witco	30.00%	
	6.0 BVSM	HAR-3179	1.80%	
	6.0 10G	FAC-0555	10.00%	
2	225.0 Gel-4	Gel-0606	11.88%	
	100.0 XoDy		14.90%	7.00
	475.0 W-213	Witco	30.00%	
	6.0 BVSM	HAR-3179	1.80%	
	6.0 10G	FAC-0555	10.00%	
3	200.0 Gel-4	Gel-0606	11.88%	
	100.0 XoDy		14.90%	7.00
	500.0 W-213	Witco	30.00%	
	6.0 BVSM	HAR-3179	1.80%	
	6.0 10G	FAC-0555	10.00%	
4	200.0 Gel-4	Gel-0606	11.88%	
	100.0 XoDy		14.90%	7.00
	500.0 W-213	Witco	30.00%	
	10.0 BVSM	HAR-3179	1.80%	
	6.0 10G	FAC-0555	10.00%	
5	300.0 Gel-4	Gel-0606	11.88%	
	0.0 XoDy		14.90%	7.00
	500.0 W-213	Witco	30.00%	
	6.0 BVSM	HAR-3179	1.80%	
	6.0 10G	FAC-0555	10.00%	
6	250.0 Gel-4	Gel-0606	11.88%	
	0.0 XoDy		14.90%	7.00
	550.0 W-213	Witco	30.00%	
	6.0 BVSM	HAR-3179	1.80%	
	6.0 10G	FAC-0555	10.00%	
7	200.0 Gel-4	Gel-0606	11.88%	
	0.0 XoDy		14.90%	7.00
	600.0 W-213	Witco	30.00%	
	6.0 BVSM	HAR-3179	1.80%	
	6.0 10G	FAC-0555	10.00%	
8	200.0 PVA-EO (WO-320)	Nippon Ghosei	9.80%	
	100.0 XoDy		14.90%	7.00
	500.0 W-213	Witco	30.00%	
	20.0 DHD		10.00%	
	6.0 10G	FAC-0555	10.00%	
9	250.0 PVA-EO (WO-320)	Nippon Ghosei	9.80%	
	100.0 XoDy		14.90%	7.00
	450.0 W-213	Witco	30.00%	
	20.0 DHD		10.00%	
	6.0 10G	FAC-0555	10.00%	

05- Melt No.	Composition (mg/ft2)	Material source	conc.	Wet Load cc/ft2
10	300.0 PVA-EO (WO-320)	Nippon Ghosei	9.80%	
	100.0 XoDy		14.90%	7.00
	400.0 W-213	Witco	30.00%	
	20.0 DHD		10.00%	
	6.0 10G	FAC-0555	10.00%	
11	300.0 PVA-EO (WO-320)	Nippon Ghosei	9.80%	
	0.0 XoDy		14.90%	7.00
	500.0 W-213	Witco	30.00%	
	20.0 DHD		10.00%	
	6.0 10G	FAC-0555	10.00%	
12	250.0 PVA-EO (WO-320)	Nippon Ghosei	9.80%	
	0.0 XoDy		14.90%	7.00
	550.0 W-213	Witco	30.00%	
	20.0 DHD		10.00%	
	6.0 10G	FAC-0555	10.00%	
13	200.0 PVA-EO (WO-320)	Nippon Ghosei	9.80%	
	0.0 XoDy		14.90%	7.00
	600.0 W-213	Witco	30.00%	
	20.0 DHD		10.00%	
	6.0 10G	FAC-0555	10.00%	
14	300.0 Gel-5	gel-55	14.83%	
	0.0 XoDy		14.90%	8.00
	500.0 W-213	Witco	30.00%	
	6.0 BVSM	HAR-3179	1.80%	
	6.0 10G	FAC-0555	10.00%	
15	250.0 Gel-5	gel-55	14.83%	
	0.0 XoDy		14.90%	8.00
	550.0 W-213	Witco	30.00%	
	4.5 BVSM	HAR-3179	1.80%	
	6.0 10G	FAC-0555	10.00%	
16	200.0 Gel-5	gel-55	14.83%	
	0.0 XoDy		14.90%	8.00
	500.0 W-213	Witco	30.00%	
	6.0 BVSM	HAR-3179	1.80%	
	6.0 10G	FAC-0555	10.00%	
17	200.0 Gel-5	gel-55	14.83%	
	100.0 XoDy		14.90%	8.00
	500.0 W-213	Witco	30.00%	
	6.0 BVSM	HAR-3179	1.80%	
	6.0 10G	FAC-0555	10.00%	
18	200.0 Gel-5	gel-55	14.83%	
	100.0 XoDy		14.90%	8.00
	500.0 W-213	Witco	30.00%	
	10.0 BVSM	HAR-3179	1.80%	
	6.0 10G	FAC-0555	10.00%	
19	3000.0 EmMn (95/5), 753 nm, Cationic	CC0125-78	49.84%	
	575.0 W-320	Witco	34.50%	8.00
	25.0 GP-50-A(modified dimethyl silic	Genesee Polymer	50.00%	
	20.0 Zonyl FSN	FAC-0029	40.00%	

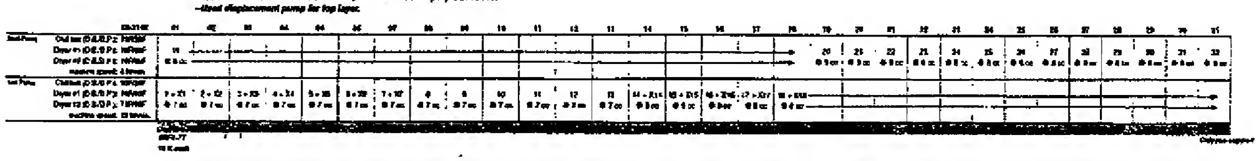
05- Melt No.	Composition (mg/ft2)	Material source	conc.	Wet Load cc/ft2
20	3000.0 Em-100, 808 nm, Cationic SL	CC167-137B	54.40%	
	575.0 W-320	Witco	34.50%	8.00
	25.0 GP-50-A(modified dimethyl silic	Genesee Polymer	50.00%	
	20.0 Zonyl FSN	FAC-0029	40.00%	
21	3000.0 Em-100, 715 nm, Cationic SL	CC167-127B	50.70%	
	575.0 W-320	Witco	34.50%	8.00
	25.0 GP-50-A(modified dimethyl silic	Genesee Polymer	50.00%	
	20.0 Zonyl FSN	FAC-0029	40.00%	
22	3000.0 Em-100, 603 nm, Cationic SL	CC167-77	52.20%	
	575.0 W-320	Witco	34.50%	8.00
	25.0 GP-50-A(modified dimethyl silic	Genesee Polymer	50.00%	
	20.0 Zonyl FSN	FAC-0029	40.00%	
23	3000.0 Em-100, 742 nm, Cationic SL	CC167-158B	51.80%	
	575.0 W-320	Witco	34.50%	8.00
	25.0 GP-50-A(modified dimethyl silic	Genesee Polymer	50.00%	
	20.0 Zonyl FSN	FAC-0029	40.00%	
24	3000.0 Em-100, 788 nm, Cationic SL	CC167-160B	51.30%	
	575.0 W-320	Witco	34.50%	8.00
	25.0 GP-50-A(modified dimethyl silic	Genesee Polymer	50.00%	
	20.0 Zonyl FSN	FAC-0029	40.00%	
25	3000.0 Em-100, ??? nm, Cationic SL	CC167-162B	52.00%	
	575.0 W-320	Witco	34.50%	8.00
	25.0 GP-50-A(modified dimethyl silic	Genesee Polymer	50.00%	
	20.0 Zonyl FSN	FAC-0029	40.00%	
26	3000.0 Em-100, ??? nm, Cationic SL	CC167-164B	52.60%	
	575.0 W-320	Witco	34.50%	8.00
	25.0 GP-50-A(modified dimethyl silic	Genesee Polymer	50.00%	
	20.0 Zonyl FSN	FAC-0029	40.00%	
27	3000.0 Em-100/BZF352 (95/5), ??? nm	CC167-166B	55.30%	
	575.0 W-320	Witco	34.50%	8.00
	25.0 GP-50-A(modified dimethyl silic	Genesee Polymer	50.00%	
	20.0 Zonyl FSN	FAC-0029	40.00%	
28	3000.0 Em-100/BZF352 (97.5/2.5), ???	CC167-168B	54.20%	
	575.0 W-320	Witco	34.50%	8.00
	25.0 GP-50-A(modified dimethyl silic	Genesee Polymer	50.00%	
	20.0 Zonyl FSN	FAC-0029	40.00%	
29	3000.0 BEm(1/1)/Em (1:4), 908 nm, C	CC167-154B	53.60%	
	575.0 W-320	Witco	34.50%	8.00
	25.0 GP-50-A(modified dimethyl silic	Genesee Polymer	50.00%	
	20.0 Zonyl FSN	FAC-0029	40.00%	
30	3000.0 EmMn (86/14), 802 nm, Cation	DED103102F	49.87%	
	575.0 W-320	Witco	34.50%	8.00
	25.0 GP-50-A(modified dimethyl silic	Genesee Polymer	50.00%	
	20.0 Zonyl FSN	FAC-0029	40.00%	
31	3000.0 EmMn (86/14), 730 nm, Cation	DED105102C	51.23%	
	575.0 W-320	Witco	34.50%	8.00
	25.0 GP-50-A(modified dimethyl silic	Genesee Polymer	50.00%	
	20.0 Zonyl FSN	FAC-0029	40.00%	
32	3000.0 EmMn (95/5), 753 nm, Cationic	CC0125-78	49.84%	
	575.0 W-320	Witco	34.50%	8.00
	25.0 GP-50-A(modified dimethyl silic	Genesee Polymer	50.00%	
	20.0 Zonyl FSN	FAC-0029	40.00%	

1000 = 38°C / 90% 1wk Sent 4/1/05
~~2000 = 38°C / 80% 1wk~~
3000 = 1wk 5ppm Ozone Chamber
4000 = 1wk HID

100 = Canon W-2200 CC0250-25 pig
200 = Epson 1280 CC0250-15B

Ctg. Date: [redacted]
Safelight: [redacted]
Charge number: 205196
Support: sRP1-77, Calypso (Day/Night support)
Dryer Setting: see diagram below
Machine speed: see diagram below
Finish: handrolls

- Change threading in the conditioning section (following chillbox) to minimize vertical conveyance.
- Adjust air pressure to neutral in chillbox (.5 on manual is close for starters).
- Keep hopper at 40°C.
- ALL coating doorways CLOSED.
- Turn CDF on to cool both Passes.
- Take out in-between lines between layers to conserve top layer melt #19.
- Used displacement pump for top layer.



KP 15226-6/00

Signature [signature]

The foregoing disclosed to me on [redacted] Witness [signature]

Exhibit C

RESEARCH / DEVELOPMENT
EASTMAN KODAK COMPANY

Notebook No. CC0027

Date [redacted]

Problem: 205191 3200

Page 1 of 1

Ctg. Date: [redacted]
Sidelight: [redacted]
Charge number:
Support: 6RF1-77
Finish: handrails

[redacted]

SS-3200 Melt No.	Composition (mg/ft2)	Material source	conc.	Wet Load cc/ft2
1	200.0 Gel-4 100.0 XoDy 500.0 W-213 0.0 BVSM 6.0 10G	Gel-9805 Witco HAR-3179 FAC-0555	12.00% 14.00% 30.00% 1.80% 10.00%	8.00
2	200.0 Gel-4 100.0 XoDy 500.0 W-213 6.0 BVSM 6.0 10G	Gel-9808 Witco HAR-3179 FAC-0555	12.00% 14.90% 30.00% 1.80% 10.00%	8.00
3	400.0 Gel-4 100.0 XoDy 300.0 W-320 6.0 BVSM 6.0 10G	Gel-9805 Witco HAR-3179 FAC-0555	12.00% 14.90% 30.00% 1.80% 10.00%	8.00
4	200.0 Gel-4 100.0 XoDy 500.0 W-320 6.0 BVSM 6.0 10G	Gel-9808 Witco HAR-3179 FAC-0555	12.00% 14.90% 30.00% 1.80% 10.00%	8.00
5	400.0 Gel-4 400.0 W-213 6.0 BVSM 6.0 10G	Gel-9808 Witco HAR-3179 FAC-0555	12.00% 30.00% 1.80% 10.00%	8.00
6	200.0 Gel-4 600.0 W-213 6.0 BVSM 6.0 10G	Gel-9808 Witco HAR-3179 FAC-0555	12.00% 30.00% 1.80% 10.00%	8.00
7	400.0 Gel-4 400.0 W-320 6.0 BVSM 6.0 10G	Gel-9808 Witco HAR-3179 FAC-0555	12.00% 30.00% 1.80% 10.00%	8.00
8	200.0 Gel-4 600.0 W-320 6.0 BVSM 6.0 10G	Gel-9805 Witco HAR-3179 FAC-0555	12.00% 30.00% 1.80% 10.00%	8.00
9	200.0 Gel-4 100.0 XoDy 300.0 W-213 6.0 BVSM 6.0 10G	Gel-9806 Witco HAR-3179 FAC-0555	12.00% 14.90% 30.00% 1.80% 10.00%	8.00
10	400.0 PVA (GH-23) 100.0 XoDy 100.0 W-320 60.0 DHD 6.0 10G	Nippon Ghosei Witco FAC-0555	11.67% 14.00% 33.70% 10.00% 10.00%	9.00
11	400.0 PVA (GH-23) 100.0 XoDy 300.0 W-320 40.0 DHD 6.0 10G	Nippon Ghosei Witco FAC-0555	11.67% 14.00% 33.70% 10.00% 10.00%	9.00
12	355.6 PVA (GH-23) 88.9 XoDy 266.7 W-320 0.0 DHD 5.3 10G	Nippon Ghosei Witco FAC-0555	11.67% 14.00% 33.70% 100.00% 10.00%	8.00
13	600.0 PVA (GH-23) 200.0 W-320 60.0 DHD 6.0 10G	Nippon Ghosei Witco FAC-0555	11.67% 33.70% 10.00% 10.00%	8.0
14	400.0 PVA (GH-23) 400.0 W-320 60.0 DHD 6.0 10G	Nippon Ghosei Witco FAC-0555	11.67% 33.70% 10.00% 10.00%	8.0
15	300.0 PVA-EO (WO-320) 100.0 XoDy 400.0 W-213 30.0 DHD 6.0 10G	Nippon Ghosei Witco FAC-0555	9.80% 14.20% 30.00% 70.00% 10.00%	8.00
16	200.0 PVA-EO (WO-320) 100.0 XoDy 500.0 W-213 20.0 DHD 6.0 10G	Nippon Ghosei Witco FAC-0555	9.80% 14.90% 30.00% 10.00% 10.30%	8.00
17	400.0 Gel-4 100.0 XoDy 300.0 W-213 4.0 BVSM 6.0 10G	Gel-9806 Witco HAR-3179 FAC-0555	11.80% 14.90% 30.00% 1.80% 10.00%	8.00
18	2930.0 EmMm (95/5), 753 nm, Cationic S 570.0 W-320 50.0 GP-50-A(modified dimethyl siliconeaneaee Polymer 20.0 Zonyl FSN	CC0125-76 Witco FAC-0029	48.84% 34.50% 50.00% 40.00%	8.00
19	2930.0 EmMm (95/5), 753 nm, Cationic S 570.0 W-213 50.0 GP-50-A(modified dimethyl siliconeaneaee Polymer 20.0 Zonyl FSN	CC0125-76 Witco FAC-0029	48.84% 30.00% 50.00% 40.00%	8.00
20	2930.0 EmMm (95/5), 753 nm, Cationic S 570.0 W-320 50.0 GP-50-A(modified dimethyl siliconeaneaee Polymer 50.0 Allophane-classic 20.0 Zonyl FSN	CC0125-76 Witco FAC-0029	48.84% 34.50% 50.00% 10.00% 40.00%	8.00
21	2030.0 Em-100 Cationic St. 570.0 W-320 50.0 GP-50-A(modified dimethyl siliconeaneaee Polymer 20.0 Zonyl FSN	CC187-170B Witco FAC-0029	80.20% 34.50% 50.00% 40.00%	8.00
22	2890.0 EmP(97/3) 570.0 W-320 50.0 GP-50-A(modified dimethyl siliconeaneaee Polymer 20.0 Zonyl FSN	CC167-180 Witco FAC-0029	51.80% 34.50% 50.00% 40.00%	8.00
23	2930.0 EmMm (86/14), Cationic St. 570.0 W-320 50.0 GP-50-A(modified dimethyl siliconeaneaee Polymer 20.0 Zonyl FSN	CC187-182 Witco FAC-0029	52.40% 34.50% 50.00% 40.00%	8.00
24	2930.0 EmMm (95/5), Cationic St. 570.0 W-320 50.0 GP-50-A(modified dimethyl siliconeaneaee Polymer 20.0 Zonyl FSN	DED0131030A Witco FAC-0029	55.60% 34.50% 50.00% 40.00%	8.00

Ctg. Date: 4/8/03 (PM)
Sidelight: White
Charge number: 205191
Support: 6RF1-77
Dryer Setting: see diagram below
Machine speed: see diagram below
Finish: handrails

..Short threading in the conditioning section (following chillers) to minimize vertical conveyance.
..Adjust air pressure to neutral in chillbox.(1 on manual is close for starters).
..Keep hopper at 40 C.
..Turn CBT on to coat both Passes.
..Used displacement pump for top layer.
..Save 1ft of each bottom layer, keep them in the freezer, run swell measurement later
..use X-slide (0.010 gap) hopper for bottom layer, X-hopper (0.006 gap) for top layer

SS-3200	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
2nd Pass (D.B./D.P.): [illegible] Dryer #1 (D.B./D.P.): [illegible] Dryer #2 (D.B./D.P.): [illegible] machine speed: 8 ft/min	16 @ 8 cc	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	19 @ 8 cc	20 @ 8 cc	21 @ 8 cc	22 @ 8 cc	23 @ 8 cc	24 @ 8 cc
1st Pass (D.B./D.P.): [illegible] Dryer #1 (D.B./D.P.): [illegible] Dryer #2 (D.B./D.P.): [illegible] machine speed: 12 ft/min		1 @ 8 cc	2 + X2 @ 8 cc	3 + X3 @ 8 cc	4 + X4 @ 8 cc	5 + X5 @ 8 cc	6 + X6 @ 8 cc	7 + X7 @ 8 cc	8 + X8 @ 8 cc	9 @ 8 cc	10 + X10 @ 9 cc	11 + X11 @ 9 cc	12 @ 8 cc	13 + X13 @ 8 cc	14 + X14 @ 8 cc	15 + X15 @ 8 cc	16 + X16 @ 8 cc	17 + X17 @ 8 cc	→	→	→	→	→	→
6RF1-77	8 ft	8 ft	8 ft	8 ft	8 ft	8 ft	8 ft	8 ft	8 ft	8 ft	8 ft	8 ft	8 ft	8 ft	8 ft	8 ft	8 ft	16 ft	16 ft	16 ft	16 ft	16 ft	16 ft	16 ft

Note: When X-slide hopper was used for coating top layer, coating was steady (ctgs 01-04).
Then 0.06 gap hopper was installed and used for the rest of job, streaks were minimized. 01 & 02 was recoated.

W-2200 Canon Prints
CC0250-25
1) Skull image - done
2) Dark Keeping
1000 = 1w 38°C/90%RH set 4/25
2000 - 1w 38°C/80%RH
~~100 = W2200 Canon~~ (CC0250-25 prep)
3) Drain Haze on Dark Keep Singles
4) RSK 1w 50°C/50%RH 2000's sent 5/15
1w 45°C/50%RH
print on Canon 2200 w/ ~~Skull image~~

Haze Measurements to Gary Pykes
measure 3 Repeats not 5 (#)

3210 info

5226-6/00

Signature [signature]

The foregoing disclosed to me on [redacted] Witness [signature]

Ctg. Date: [redacted]
Satisfight: White
Charge number:
Support: 6RP1-77 & Calypso (Day/Night support)
Finish: handrolls

patent examples available own layer.xls

Exhibit D

5S-3165	Bim Layer (mg/ft2)	Material source	Fusible Layer (mg/ft2)	Material source	Ctg Quality	swell of bottom layer (mils)	swell of bottom layer (ums)	wt of water being absorbed by 1 ft2 of coating	swell wt of water/wt of dry layer	cracks	fused at 300F/0.8ips/60psi Image quality Epson 820	fused at 300F/0.8ips/60psi stain resistance 5 min. Ponceau red	[redacted] test 6.16 mm
1	250.0 Gel-4 100.0 XoDy 450.0 W-213 (C-1) 6.0 BVSM 6.0 10G	Gel-9606 Witco HAR-3179 FAC-0555	3800.0 EmMm (95/5), 753 nm, Cationic 575.0 W-320 25.0 GP-50-A(modified dimethyl silico 20.0 Zonyl FSN	CC0125-76 Witco Genesee Polyme FAC-0029	some cracks not very obvious	0.28	7.112	0.65	0.816	1	almost no bleed	no stain very faint haze	fair
2	225.0 Gel-4 100.0 XoDy 475.0 W-213 6.0 BVSM 6.0 10G	Gel-9606 Witco HAR-3179 FAC-0555	as 01		no cracks some air bubbles	0.2	5.08	0.47	0.583	-1	no bleed	no stain very faint haze	fair
3	200.0 Gel-4 100.0 XoDy 500.0 W-213 (3) 6.0 BVSM 6.0 10G	Gel-9606 Witco HAR-3179 FAC-0555	as 01		no cracks some air bubbles	0.14	3.556	0.33	0.408	-1	almost no bleed	no stain very faint haze	fair
4	200.0 Gel-4 100.0 XoDy 500.0 W-213 (4) 10.0 BVSM 6.0 10G	Gel-9606 Witco HAR-3179 FAC-0555	as 01		no cracks some air bubbles	0.17	4.318	0.40	0.496	-1	no bleed	no stain slight haze	fair
5	300.0 Gel-4 500.0 W-213 6.0 BVSM 6.0 10G	Gel-9606 Witco HAR-3179 FAC-0555	as 01		no cracks some air bubbles	0.16	4.064	0.37	0.460	-1	very slight bleed	no stain slight haze	
6	250.0 Gel-4 550.0 W-213 6.0 BVSM 6.0 10G	Gel-9606 Witco HAR-3179 FAC-0555	as 01		no cracks some air bubbles	0.23	5.842	0.54	0.670	-1	very slight bleed	no stain slight haze	
7	200.0 Gel-4 600.0 W-213 6.0 BVSM 6.0 10G	Gel-9606 Witco HAR-3179 FAC-0555	as 01		no cracks some air bubbles	0.44	11.176	1.03	1.283	-1	very slight bleed	no stain slight haze	
8	200.0 PVA-EO (WO-320) 100.0 XoDy 500.0 W-213 20.0 DHD 6.0 10G	Nippon Ghosei Witco FAC-0555	as 01		appears to be flow after coating	0.23	5.842	0.54	0.670	-1	very slight bleed some small cracks hazier than gelatin	light stain hazy	
9	250.0 PVA-EO (WO-320) 100.0 XoDy 450.0 W-213 20.0 DHD 6.0 10G	Nippon Ghosei Witco FAC-0555	as 01		appears to be flow after coating	0.23	5.842	0.54	0.670	-1	very slight bleed some small cracks slightly hazier than gel	light stain hazy	
10	300.0 PVA-EO (WO-320) 100.0 XoDy 400.0 W-213 20.0 DHD 6.0 10G	Nippon Ghosei Witco FAC-0555	as 01		some cracks not very obvious	0.41	10.414	0.96	1.195	1	very slight bleed lots of small cracks	light stain hazy	
11	300.0 PVA-EO (WO-320) 500.0 W-213 20.0 DHD 6.0 10G	Nippon Ghosei Witco FAC-0555	as 01		cracks not very obvious	0.3	7.62	0.70	0.874	1	very slight bleed lots of small cracks	light stain hazy	
12	250.0 PVA-EO (WO-320) 550.0 W-213 20.0 DHD 6.0 10G	Nippon Ghosei Witco FAC-0555	as 01		appear to be flow after coating	0.27	6.858	0.63	0.787		very slight bleed some small cracks	light stain hazy	
13	200.0 PVA-EO (WO-320) 600.0 W-213 20.0 DHD 6.0 10G	Nippon Ghosei Witco FAC-0555	as 01		appear to be flow after coating	0.26	6.604	0.61	0.758		very slight bleed some small cracks	very light stain hazy	
14	300.0 Gel-5 500.0 W-213 6.0 BVSM (C-10) 6.0 10G	gel-55 Witco HAR-3179 FAC-0555	as 01		some cracks	0.4	10.16	0.93	1.166	1	very slight bleed some small cracks	very light stain hazy	fair
15	250.0 Gel-5 550.0 W-213 6.0 BVSM (C-11) 6.0 10G	gel-55 Witco HAR-3179 FAC-0555	as 01		very mild cracks air bubbles	0.24	6.096	0.56	0.700	1	slight bleed	very light stain hazy	fair
16	200.0 Gel-5 500.0 W-213 6.0 BVSM 6.0 10G	gel-55 Witco HAR-3179 FAC-0555	as 01		some air bubbles no cracks	0.19	4.826	0.44	0.554	-1	slight bleed some cracsk on sides	almost no stain hazy	fair
17	200.0 Gel-5 100.0 XoDy 500.0 W-213 6.0 BVSM 6.0 10G	gel-55 Witco HAR-3179 FAC-0555	as 01		cracks not obvious air bubbles	0.3	7.62	0.70	0.874	1	slight bleed some cracsk on sides	almost no stain hazy	
18	200.0 Gel-5 100.0 XoDy 500.0 W-213 10.0 BVSM 6.0 10G	gel-55 Witco HAR-3179 FAC-0555	as 01		air bubbles no cracks	0.14	3.556	0.39	0.408	-1	slight bleed some cracsk on sides	almost no stain hazy	fair
5S-3200	Bottom Layer (mg/ft2)	Material source	Top Layer (mg/ft2)	Material source	Ctg Quality						Image quality Epson 820	stain resistance 5 min.Ponceau red	
1	no bottom layer		2930.0 EmMm (95/5), 753 nm, Cationic 570.0 W-320 50.0 GP-50-A(modified dimethyl silico 20.0 Zonyl FSN	CC0125-76 Witco Genesee Polymer FAC-0029							good very little bleeding	no stain very slight haze	poor (delaminated)
2	200.0 Gel-4 100.0 XoDy 500.0 W-213 0.0 BVSM 6.0 10G	Gel-9606 Witco HAR-3179 FAC-0555	as 01			0.28	7.112	0.65	0.816	-1	slight bleeding cracks in fused image	no stain very slight haze	
5	200.0 Gel-4 100.0 XoDy 500.0 W-320 6.0 BVSM 6.0 10G	Gel-9606 Witco HAR-3179 FAC-0555	as 01		cracks	0.22	5.588	0.51	0.641	1	slight bleeding hazy coating flaked off easily before fusing	no stain very slight haze fused sample is slightly haze	
6	400.0 Gel-4 400.0 W-213 6.0 BVSM 6.0 10G	Gel-9606 Witco HAR-3179 FAC-0555	as 01		cracks	0.32	8.128	0.75	0.933	1	slight bleeding cracks	no stain very slight haze	
7	200.0 Gel-4 600.0 W-213 6.0 BVSM 6.0 10G	Gel-9606 Witco HAR-3179 FAC-0555	as 01		fine cracks not obvious	0.16	4.064	0.37	0.466	1	slight bleeding cracks in high ink area	no stain very slight haze	
8	400.0 Gel-4 400.0 W-320	Gel-9606 Witco	as 01		cracks	0.77	19.558	1.80	2.245	1	some bleeding cracks	no stain very slight haze	

Exhibit D

	6.0 BVSM 6.0 10G	HAR-3179 FAC-0555										fused sample is slightly haze	
9	200.0 Gel-4 500.0 W-320 6.0 BVSM 6.0 10G	Gel-9806 Wilco HAR-3179 FAC-0555	as 01		cracks	0.25	6.35	5.96	0.729	1	some bleeding cracks	no stain very slight haze fused sample is slightly haze	
10	200.0 Gel-4 100.0 XoDy 500.0 W-213 0.0 BVSM 6.0 10G	Gel-9806 Wilco HAR-3179 FAC-0555	as 01		small cracks	0.35	8.89	9.82	1.020	1	slight bleeding cracks	no stain very slight haze	
11	600.0 PVA (GH-23) 100.0 XoDy 100.0 W-320 60.0 DHD 6.0 10G	Nippon Ghosei Wilco FAC-0555	as 01		cracks	0.41	10.414	0.96	1.195	1	slight bleeding cracks	no stain very slight haze fused sample is slightly haze	fair
12	400.0 PVA (GH-23) 100.0 XoDy 300.0 W-320 40.0 DHD 6.0 10G	Nippon Ghosei Wilco FAC-0555	as 01		cracks	0.4	10.16	0.93	1.165	1	very little bleeding cracks	no stain very slight haze fused sample is slightly haze	fair
13	355.5 PVA (GH-23) 88.9 XoDy 266.7 W-320 0.0 DHD 5.2 10G	Nippon Ghosei Wilco FAC-0555	as 01		cracks	-0.31	-7.874	-0.72	-0.904	1	noticable bleeding cracks	no stain very slight haze fused sample is slightly haze	
14	600.0 PVA (GH-23) 200.0 W-320 80.0 DHD 6.0 10G	Nippon Ghosei Wilco FAC-0555	as 01		fine cracks	0.35	8.89	0.82	1.020	1.00	slight bleeding high ink area cracked and flaked off when IR dri	no stain very slight haze fused sample is slightly haze	
15	400.0 PVA (GH-23) 400.0 W-320 80.0 DHD 6.0 10G	Nippon Ghosei Wilco FAC-0555	as 01		cracks	0.21	5.334	0.49	0.612	1.00	slight bleeding high ink area cracked and flaked off when IR dried	no stain very slight haze	
16	400.0 Gel-4 100.0 XoDy 300.0 W-213 6.0 BVSM 6.0 10G	Gel-9806 Wilco HAR-3179 FAC-0555	as 01		clg lost	0.41	10.414	0.96	1.195		no sample		
55-3254 Btm layer (mg/ft2)		Material source	Top Layer (mg/ft2)	Material source	Clg Quality						Image Quality Epson 820		
5	350.0 Gel-4 650.0 W-213 10.5 BVSM 6.0 10G	Gel-9806 Wilco HAR-3179 FAC-0555	as 01		some cracks	0.29	7.366	0.68	0.676	1.00	some bleed		fair
6	400.0 Gel-4 600.0 W-213 12.0 BVSM 6.0 10G	Gel-9806 Wilco HAR-3179 FAC-0555	as 01		some cracks	0.36	9.144	0.84	0.840	1.00	some bleed		fair
7	300.0 Gel-4 700.0 W-213 13.5 BVSM 6.0 10G	Gel-9806 Wilco HAR-3179 FAC-0555	as 01		very few cracks	0.23	5.842	0.54	0.536	-1.00	some bleed		fair
8	250.0 Gel-4 750.0 W-213 7.5 BVSM 6.0 10G	Gel-9806 Wilco HAR-3179 FAC-0555	as 01		no cracks	0.21	5.334	0.48	0.490	-1.00	some bleed		fair
9	250.0 Gel-4 625.0 W-213 125.0 XoDy 7.5 BVSM 6.0 10G	Gel-9806 Wilco HAR-3179 FAC-0555	as 01		some cracks	0.34	8.636	0.79	0.793	1.00	some bleed		fair